

IN THE CLAIMS:

Please cancel claims 1-17, 20-27, 39-42, 44-52 and 54-56 without prejudice.

Please amend claims 18, 19, 43 and 53 as follows:

1-17. (canceled).

18. (Currently amended) A system for performing a simulated medical procedure, comprising:

- (a) a simulated organ, wherein said simulated organ is a gastro-intestinal tract;**
- (b) a simulated instrument for performing the simulated medical procedure on said simulated organ, wherein said simulated instrument is an endoscope, said endoscope featuring a sensor for determining a location of said sensor in said gastro-intestinal tract;**
- (c) a locator for determining a location of said simulated instrument within said simulated organ;**
- (d) a visual display for displaying images according to said location of said simulated instrument within said simulated organ for providing visual feedback, such that said images simulate actual visual data received during an actual medical procedure as performed on an actual subject, said visual display including:**
 - (i) a three-dimensional mathematical model for modeling said simulated organ according to a corresponding actual organ, said model being divided into a plurality of segments, said plurality of segments being arranged in a linear sequence;**
 - (ii) a loader for selecting at least one of said plurality of segments from said linear sequence for display, said at least one of said plurality of segments being selected according to said location of said simulated instrument within said simulated organ;**

- (iii) a controller for selecting a simulated image from said segment according to said location of said simulated instrument; and
- (iv) a displayer for displaying said simulated image;
- (e) a computer for determining said visual feedback according to said location of said sensor; and
- (f) a tactile feedback mechanism for providing simulated tactile feedback according to said location of said tip of said endoscope, wherein said tactile feedback mechanism is located in said endoscope, and said endoscope further comprises:
 - (i) a guiding sleeve connected to said tip of said endoscope;
 - (ii) at least one ball bearing attached to said guiding sleeve for rolling along an inner surface of said gastro-intestinal tract;
 - (iii) at least one linear motor attached to said guiding sleeve;
 - (iv) a piston operated by said linear motor, said piston contacting said inner surface of said gastro-intestinal tract; and
 - (v) a controller for controlling said linear motor, such that a position of said piston is determined by said controller, and such that said position of said piston provides said tactile feedback.

19. (Currently Amended) A system for performing a simulated medical procedure, comprising:

- (a) a simulated organ;
- (b) a simulated instrument for performing the simulated medical procedure on said simulated organ, said simulated instrument featuring a sensor for determining a location of said sensor;
- (c) a locator for determining a location of a tip of said simulated instrument within said simulated organ according to said sensor; and
- (d) a visual display for displaying images according to said location of said simulated instrument within said simulated organ for providing visual feedback, such that said images simulate actual visual data received during an actual medical procedure as performed on an actual subject, said visual display including:
 - (i) a three-dimensional mathematical model for modeling said simulated organ according to a corresponding actual organ, said model being divided into a plurality of segments, said plurality of segments being arranged in a linear sequence;
 - (ii) a loader for selecting at least one of said plurality of segments from said linear sequence for display, said at least one of said plurality of segments being selected according to said location of said simulated instrument within said simulated organ;
 - (iii) a controller for selecting a simulated image from said segment according to said location of said simulated instrument; and
 - (iv) a displayer for displaying said simulated image; and
- (e) a tactile feedback mechanism for providing simulated tactile feedback according to said location of said tip of said endoscope, wherein said tactile feedback mechanism features:
 - (i) a plurality of rings surrounding said endoscope, each ring having a different radius, at least a first ring featuring a radius greater than a radius of said endoscope and at least a second ring featuring a radius less than said radius of said endoscope, said radius of each of

said plurality of rings being controlled according to a degree of inflation with air of each of said plurality of rings, said radius of said rings determining movement of said endoscope;

(ii) an air pump for pumping air into said plurality of rings;

(iii) at least one tube for connecting said air pump to said plurality of rings; and

(iv) an air pump controller for determining said degree of inflation with air of said plurality of rings by controlling said air pump.

20-42. (canceled).

43. (Currently amended)

A system for performing a simulated medical procedure, comprising:

(a) a simulated organ;

(b) a simulated instrument for performing the simulated medical procedure on said simulated organ, wherein said simulated instrument is an endoscope featuring an endoscope cable, said endoscope cable forming a loop from a movement of said endoscope in said simulated organ;

(c) a locator for determining a location of said simulated instrument within said simulated organ; and

(d) a visual display for displaying images according to said location of said simulated instrument within said simulated organ for providing visual feedback, such that said images simulate actual visual data received during an actual medical procedure as performed on an actual subject, said visual display including:

(i) a three-dimensional mathematical model for modeling said simulated organ according to a corresponding actual organ, said model

being divided into a plurality of segments, said plurality of segments being arranged in a linear sequence, wherein said mathematical model features a plurality of polygons defined with respect to a spline, said spline determining a geometry of said mathematical model in three dimensions, said loop being modeled according to said mathematical model, wherein said mathematical model for said loop features a plurality of polygons defined with respect to a spline, and wherein a size of said loop is determined according to a differential between an amount of said endoscope cable within said simulated organ and a length of said simulated organ from an entry point of said endoscope to a current position of said endoscope within said simulated organ;

(ii) a loader for selecting at least one of said plurality of segments from said linear sequence for display, said at least one of said plurality of segments being selected according to said location of said simulated instrument within said simulated organ;

(iii) a controller for selecting a simulated image from said segment according to said location of said simulated instrument; and

(iv) a displayer for displaying said simulated image.

44-52. (canceled).

53. (Currently amended) A system for simulating a medical procedure, the system comprising:

(a) an instrument for being manipulated for performing the simulated medical procedure;

(b) a three-dimensional mathematical model of an organ, such that a virtual location of said instrument in the organ during the simulated medical procedure is determined according to said three-dimensional mathematical

model, wherein said mathematical model features a spline, said spline determining a geometry of said mathematical model in three dimensions;

(c) a visual display for providing visual feedback according to said virtual location and said three-dimensional mathematical model; and

(d) a tactile feedback mechanism for providing simulated tactile feedback according to said virtual location of said instrument;

wherein said instrument is an endoscope featuring an endoscope cable, said endoscope cable forming a loop from a movement of said endoscope in the organ, said loop being modeled according to a mathematical model, wherein said mathematical model for said loop features a plurality of polygons defined with respect to a spline, and wherein a size of said loop is determined according to a differential between an amount of said endoscope cable within the organ and a length of the organ from an entry point of said endoscope to said virtual location of said endoscope within the organ.

54-56. (canceled).